**Key Concepts:**

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| --- |
| * diffusion, rate * effect of temperature * enzyme, enzyme regulation, enzyme/substrate concentration, enzyme activity * homeostasis * metabolic rate * osmosis; water flow * pH, pH scale: acids and bases |
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Objectives: Student will be able to:

* Give examples of several enzyme-catalyzed

reactions that occur in living systems and describe

the importance of each reaction for the organism.

* Explain why an organism that has a deficiency of one

of the enzymes is unable to perform a particular life

function.

* Investigate the movement of molecules across a

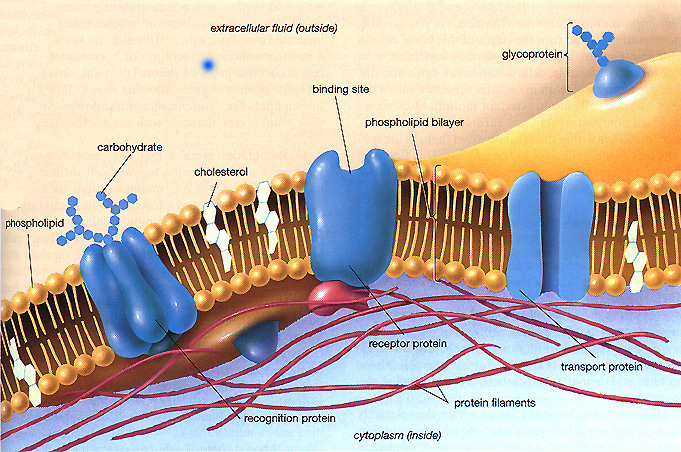
membrane. Lab Outcome

* Evaluate the data collected in their experiment or the

data they will collect to determine which data can be

used

* + to address their scientific question or prediction
  + to formulate an explanation
  + as evidence to support a position



Pertinent Information:

|  |  |
| --- | --- |
| **“Big” Ideas** | Data collected and used as evidence must be deemed credible.  Peer review is an important part of determining credibility of data.  Organisms maintain homeostasis by adjusting to external and internal changes.  Factors that regulate chemical activities support homeostasis.  Enzymes control the rate of chemical reactions.  Substances move from an area of high concentration to low concentration. |
| **Essential Question** | How can we explain that organisms maintain homeostasis by regulating chemical activities? |
| **Enduring Understanding** | The practice of science includes the collection of credible data to be used as evidence relative to a specific scientific question or prediction.  Organisms maintain homeostasis by adjusting to external and internal changes.  Enzymes control the rate of chemical reactions in living systems.  In living systems, substances move across a semi-permeable membrane from an area of high concentration to low concentration. |

Notes: